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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,013	12/13/2001	John P. Hansen	SC11218TH	2814

23125 7590 05/21/2004

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EXAMINER	
SHECHTMAN, SEAN P	

ART UNIT	PAPER NUMBER
2125	7

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,013	HANSEN ET AL.	
	Examiner	Art Unit	
	Sean P. Shechtman	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8 and 11* is/are rejected.

7)☐ Claim(s) *2,3 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 are presented for examination.

Drawings

2. Objection withdrawn due to the amendment.

Claim Rejections - 35 USC § 112

3. Rejection withdrawn.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipate by U.S. Pat. No. 3,644,840 to Conner.

Referring to claim 11, Conner discloses a domain control system (Title; Abstract; Col. 1, lines 28-36) comprising:

an input to receive a first signal (Col. 1, lines 54-66);

an output to provide a second signal (Col. 1, lines 54-66), the second signal indicative of a current state of the domain control system (Col. 10, lines 19-60);

a register coupled to the output (See registers in Fig. 1 below), the register to hold the second signal as a plurality of bits, the plurality of bits comprising at least one most significant bit and at least one least significant bit (Col. 8, lines 6-65); and

adder logic coupled to the input and the register (See adder in Fig. 1, below), the adder logic, responsive to the first signal, to adjust a magnitude of the second signal by the at least one most significant bit (Col. 8, lines 41-51).

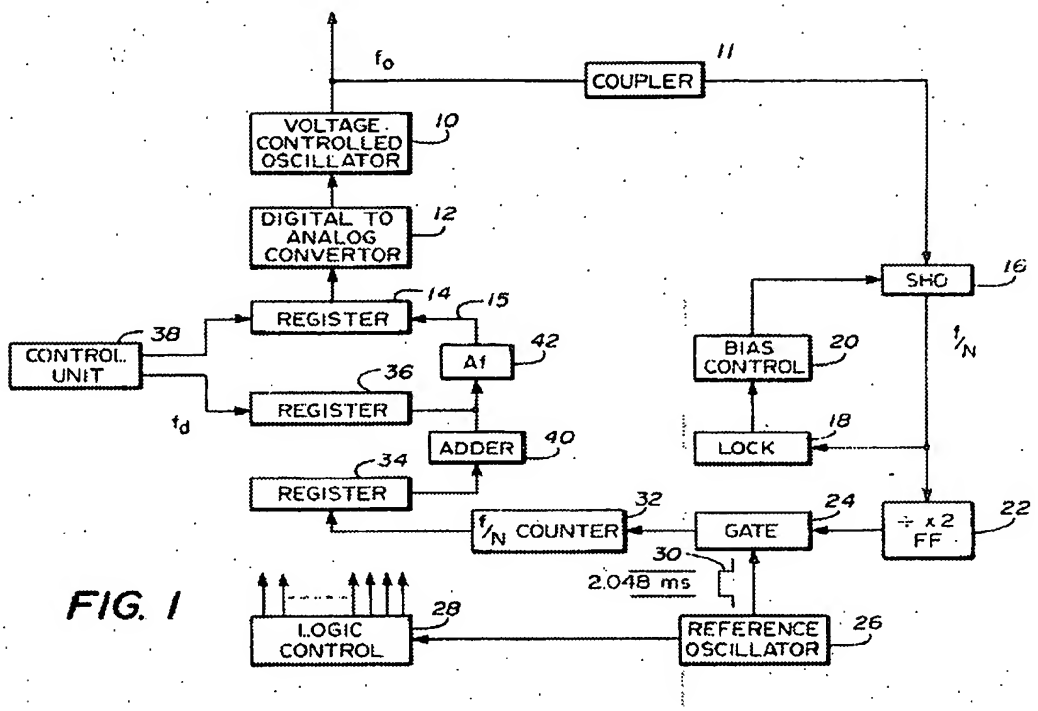

FIG. 1

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,175,507 to Kawai.

Referring to claim 1, Kawai teaches a domain control system comprising:

circuits comprising first logic (Fig. 1, elements 2 and 3), the first logic, responsive to a first signal (Fig. 1, element 1),

to provide a second signal representative of a first domain (Fig. 1, element B) and a third signal representative of the first domain and a second domain (Fig. 1, element 3; Col. 2, lines 34-69); and

a manager circuit (Fig. 1, element 8) comprising second logic coupled to the first logic, the second logic, responsive to the second and third signals,

to operate on a first value representative of the first domain (Fig. 1, element B) and on a second value representative of the second domain (Fig. 1, element C4), and

to provide a fourth signal to control an event defined by the first and second values (Abstract).

Referring to claim 10, Kawai teaches a domain control system according to claim 1 wherein the first domain is angular and the second domain is time (Fig. 1, elements B and C).

Kawai teaches a control system comprising circuits and a manager circuit.

Kawai fails to teach that the circuit are reduced to only a first and second manager.

However, examiner asserts that the combination of elements 2 and 3 meet the requirements for the first manager of the instant claims.

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine elements 2 and 3 in one circuit (i.e., omission of one circuit).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to omit circuit, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

6. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,175,507 to Kawai in view of U.S. Pat. No. 5,732,381 to Guido.

Kawai fails to teach every element of claims 4-7.

However, Guido teaches analogous art, wherein a domain control system (Col. 1, lines 14-18) comprises:

a first manager comprising first logic, the first logic, responsive to a first signal, to provide a second signal representative of a first domain (Fig. 3, element 36);

a third signal (i.e., clock module) representative of a second domain (Fig. 3, element 35); and

a second manager comprising second logic coupled to the first logic, the second logic, responsive to the second and third signals (Fig. 3, element 40), to operate on a first value representative of the first domain and on a second value representative of the second domain, and to provide a fourth signal to control an event defined by the first and second values (Fig. 3, element 41; Col. 3, line 6 – Col. 4, line 61);

wherein the first domain is angular (Fig. 3, element 36) and the second domain is time (Fig. 3, element 35).

Referring to claim 4, Guido teaches the domain control system above, wherein the second logic comprises: a first register to store the first value; a second register to store the second value; and add/subtract logic coupled to the first and second registers, the add/subtract logic, responsive to a fifth signal, to adjust the first and second values (Col. 3, lines 6-29; Col. 8, lines 7-41).

Referring to claim 5, Guido teaches the domain control system above, wherein the add/subtract logic adjusts the first value by a fixed amount and adjusts the second value by a variable amount (Col. 8, lines 30-57).

Referring to claim 6, Guido teaches the domain control system above, wherein the add/subtract logic adjusts the second value based on the fifth signal and adjusts the first value based on the adjusted second value (Col. 8, lines 30-57).

Referring to claim 7, Guido teaches the domain control system above, wherein the first register has a first capacity set by the first domain, and the second register has a second capacity set by the first domain and the second domain (Cols. 5-6).

Referring to claim 9, Guido teaches the domain control system above, wherein the second value is less than a product of the first value and the third signal (Cols. 5-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Guido with those of Kawai.

One of ordinary skill in the art would have been motivated to combine these references because Guido teaches a method and system for accurately generating a fuel pulse waveform while minimizing processor intervention (Col. 2, lines 5-41 of '381).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,175,507 to Kawai in view of U.S. Pat. No. 5,732,381 to Guido as applied to claim 7 above and further in view of U.S. Pat. No. 6,473,687 to Ando.

Referring to claim 8, Kawai fails to teach the domain control system above, wherein the first domain is angular, and a first capacity is set by one of a plurality less than one degree.

However, Ando teaches analogous art (i.e., an engine control unit with crankshaft sensing; See Abstract of '687) wherein a first domain is angular and a second domain is time (Col. 1, lines 26-32; Col. 4, line 64 – Col. 5, line 12 of '687), wherein the crank signal generates an event counter signal (Fig. 3, element 106 of '687) and an angle clock counter (Fig. 3, element 112 of '687) in response to the crank signal (See Fig. 3 and Col. 2, line 28 – Col. Col. 4, line 46 of '687). Ando discloses the domain control system above, wherein the first logic comprises: a register to hold the third signal as a plurality of bits; and add/subtract logic coupled to the register, the add/subtract logic to increase or decrease the magnitude of the third signal by most significant ones of the plurality of bits (Col. 3, line 50 – Col. 4, line 63 of '687).

Referring to claim 8, Ando teaches the domain control system above, wherein the first domain is angular, and a first capacity is set by one of a plurality less than one degree (Col. 5, lines 1-12 of '687).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Ando with those of Kawai.

One of ordinary skill in the art would have been motivated to combine these references because Ando teaches an engine control unit with reduced processing load and improved accuracy (Col. 1, lines 38-55 of '687). Examiner notes that Ando, similar to applicant's instant specification, uses signal processing hardware rather than software (Col. 3, lines 26-35 of '687).

Response to Arguments

8. Applicant's arguments, see page 3 of Amendment A, filed February 23rd 2004, with respect to the rejection(s)of claim(s) 1-10 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Pat. No. 4,175,507 to Kawai.

9. Applicant's arguments filed February 23rd 2004 with respect to the rejection(s)of claim(s) 11 have been fully considered but they are not persuasive. Applicant argues that there is no path illustrated from register 36 to adder 40 of Conner. Examiner respectfully disagrees. Fig. 7 below clearly shows a path from register 36 to adder 266 (adder 266 corresponds to adder 40 in figure 1).

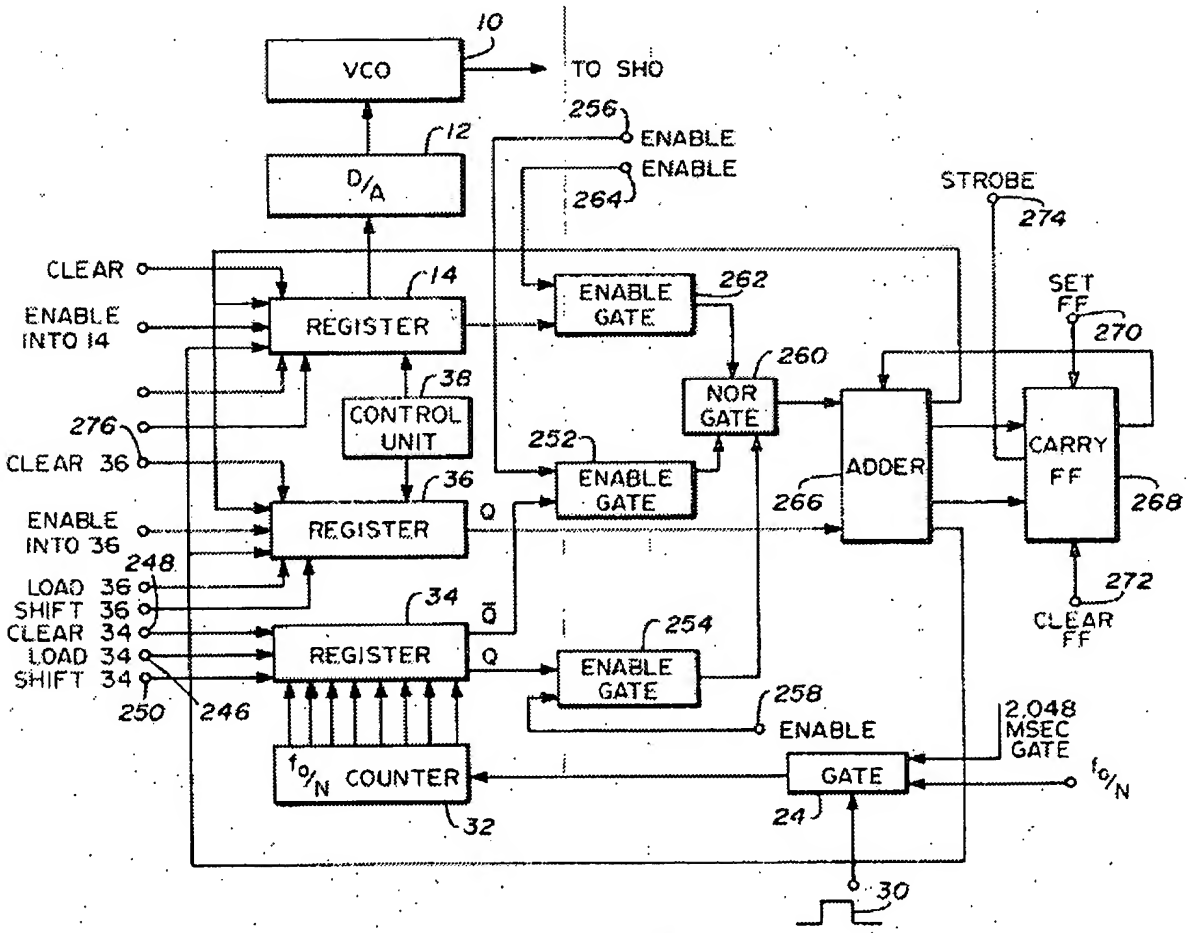

FIG. 7

INVENTOR:
DAVID C. CONNER

The claims, as such, only require an input to receive a first signal and an adder coupled to the first signal. The adder responds to signals from the NOR gate, CARRY FF, etc, etc (i.e., at least a first signal). The second signal is held in register 36 and the adder adjusts the magnitude of the signal in register 36 (Col. 8, lines 41-51).

Allowable Subject Matter

10. Claims 2-3 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (703) 305-7798. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

May 11, 2004

LEO PICARD
SUPERVISORY PATENT EXAMINER
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